

NEW TAXA OF *ACACIA* FROM EASTERN AUSTRALIA No. 2

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Synopsis

Four new taxa of *Acacia* native to Eastern Australia are described. They are all members of the Section *Botryocephalae*.

Due to two impending publications it has been necessary to publish these new species and subspecies prior to my monograph on the *Acacia decurrens* group. The latter group is of great importance in the tanning bark industry.

ACACIA STORYI, sp. nov.

Acaciae filicifoliae affinis, sed differt: ramulis, petiolis et rhachidibus glabris, petiolis ad basin parium infimorum pinnarum glandula singula glabra vel sparse pubescente, saepe etiam glandula singula glabra vel sparse pubescente interjugali praeditis, capitulis pallide flavis, pedunculis glabris, pinnis 8–17–jugis, pinnulis 32–61–jugis, quam in *Acacia filicifolia* glabrioribus.

Allied to *Acacia filicifolia* but differing in the following ways: the branchlets, petioles and rhachises glabrous, the petioles with a glabrous or slightly pubescent gland at the base of the lowest pairs of pinnae, as well as often bearing a glabrous or sparsely pubescent, interjugary gland, the heads pale yellow, the peduncles glabrous, the pinnae 8– to 17–jugate, the pinnules 32–61–jugate, more glabrous than in *A. filicifolia*.

Holotype.—Rockland Spring, 24 miles SSE of Blackwater Township, Leichhardt District, Queensland, Australia, common with *Eucalyptus tereticornis* and *Aristida* spp., erect tree 25 to 30 ft. high, trunk 6 to 9 inches diam. at 5 ft. high, bark smooth grey-green, leaves bipinnate with sparse canopy, pods drooping, Lazarides and Story No. 50, 6/9/1961 (NSW 74764), located in the National Herbarium of New South Wales, Sydney, Australia. *Isotypes*: BRI; MEL; CANB.

This species forms extensive stands on the Blackdown Tableland in Central Queensland on the sandstone plateau in dry sclerophyll forest. It flowers in July and August, the mature legumes occurring on the trees in August and September according to specimens collected by C. H. Gittins.

It is most closely related to *Acacia filicifolia*, both species being characterized by very glaucous, bluish, glabrous, almost straight-sided legumes, by numerous interjugary glands on the rhachises and by fine, narrow, closely spaced pinnules. The latter tend to be more fern-like in these two species than in the other species of the *A. decurrens* group.

ACACIA IRRORATA Sieber ex Spreng., Syst. Veg. 3: 141 (1826), ssp.
VELUTINELLA, ssp. nov.

Acaciae irroratae ssp. *irroratae* affinis, sed costis ramulorum arborum maturarum tuberculis crispato-pilosis carentibus, petiolis et rhachidibus pilis crispatis albis vel luteis tomentellosis, pedunculis pilis paucis albis erectis vel crispatis parce indutis, rhachidum glandulis haud urceolatis, ramulis novellis fusco-luteis vel aurantiacis, foliis 18–35–jugis margine et subtus pilis crispatis albis vel luteis parce indutis, corolla usque dimidiam longitudinem (nec usque tertiam vel quintam partem) divisa, leguminibus angustioribus haud scabridis differt.

Allied to *Acacia irrorata* ssp. *irrorata* but differing in the following characters: the ridges of the branchlets of mature trees without prominent tubercles bearing crisped hairs, the petioles and rhachises tomentellose with crisped, white or yellow hairs, the peduncles sparsely clothed with a few, white, erect or crisped hairs, the glands of the rhachises not urceolate, the young tips of the foliage dark yellow or orange, the leaflets 18 to 35 pairs, sparingly clothed with white or yellow, crisped hairs on the margin and lower surface, the corolla dissected to half its length instead of $\frac{1}{3}$ to $\frac{1}{2}$ of its length, the legumes narrower, non-scabrous.

Shapely trees about 6 to 10 metres high, the trunk with smooth bark which is dark grey or black with dark grey, horizontal streaks. *Branchlets* ridged, the surface and ridges tomentellose with crisped, slightly matted, yellowish or white hairs, the ribs not tuberculate except in juvenile plants. *Young tips* dark golden yellow, sometimes almost orange. *Leaves*: petiole slightly ridged, 0.7 to 2.5 cm. long, tomentellose, eglandulose or bearing a saccate gland (with a large irregular orifice) between 2 to 6 mm. below the lowest pair of pinnae, clothed as on the branchlets, bearing dark brown, saccate glands between or just below the uppermost 1 to 4 pairs of pinnae. *Pinnae* 7 to 16 pairs, 8.5 to 15 cm. long, 3 to 7 cm. broad, velvety, dark green. *Pinnules* 18 to 35 pairs, 1.5 to 3.5 mm. long, 0.4 to 0.5 mm. broad, the apex obtuse or subacute, the lower surface clothed with whitish, crisped hairs especially towards the margins, the upper surface almost glabrous. *Heads* bright yellow, globose, in racemes or panicles, each head composed of about 20 to 26 flowers, the peduncles slender, ca. 0.1 to 0.2 mm. in diam., clothed with whitish or pale yellow, crisped hairs; buds more or less glabrous. *Bracteoles* 0.7 to 0.9 mm. long, with a broad ciliolate pedicel which is expanded into a pear-shaped, dilated, curved, apical portion clothed with white hairs, but lacking a pronounced apical tuft of hairs. *Calyx* 0.3 to 0.5 mm. long, obconical, very shortly 5-lobed, yellow, the ribs and the lobes clothed with comparatively short, white crisped hairs except the margin of the lobes where the hairs are stiffer. *Corolla* ca. 1.5 mm. long, yellow, dissected for half its length into 5 acute, narrowly lanceolate lobes, glabrous, the apices and margins granular. *Stamens* numerous, the filaments about 1.7 to 2 mm. long. *Anthers* bilocular. *Ovary* subsessile, very dark brown, more or less oblanceolate, clothed with crisped hairs, 0.5 to 0.6 mm. long and about 0.1 mm. broad. *Style* laterally attached. *Legumes* stalked, coriaceous, non-scabrous, dull, black with brown markings towards the margins, submoniliform, 3.5 to 8 cm. long, 5 to 8 mm. broad. *Seeds* black, glossy to dull, longitudinal in the legumes, the funicle filiform and tightly folded into a loop, then expanded into a tawny pileiform aril on top of each seed, the areole not prominent.

Holotype.—11 miles south of Coffs Harbour, New South Wales, tree 25 ft. high, heavily fruiting, the bark smooth, black with grey horizontal streaks, M. Tindale 11/1960 (NSW 52912), located in the National Herbarium of New South Wales, Sydney.

Isotypes.—K; US; A; MEL.

Distribution.—North Coast of New South Wales.

Habitats.—On rain forest margins or in better class eucalypt forest, sometimes in *Melaleuca* swamps or on hard gravelly ridges.

Chromosome number.— $2n=26$, Voucher specimen: Gills Creek, Kempsey, New South Wales, E. F. Constable 29/5/1964 (NSW 72147). This chromosome count was made by Dr. Barbara Briggs and is published here with her kind permission.

Equivalent synonym.—*Acacia decurrens* (Wendl.) Willd. var. β , see Maiden in Agr. Gaz. N.S.W. 5: 607–8 (1894).

The subspecific epithet *velutinella* refers to the velvety foliage and branchlets which readily distinguish it from ssp. *irrorata*. However juvenile plants of ssp. *velutinella* are characterized by scabrous stems, although as the shrubs

grow older these tubercles disappear. The type subspecies has a much wider distribution than ssp. *velutinella*, as the former ranges from south-eastern Queensland to the North, Central and South Coast of New South Wales, as well as rarely on the North and Central Western Slopes and the Central Tablelands of this State. There are numerous records of ssp. *velutinella* on the North Coast of New South Wales from Dalmorton southwards to Gloucester, whereas ssp. *irrorata* is uncommon in this region. No intermediates have been observed yet, although these two taxa are morphologically close.

In the type subspecies flowering takes place mainly between mid-November and late January, although there are isolated records for February, May, June, July and August (especially in Queensland). Flowering in ssp. *velutinella* occurs in January and February, the legumes maturing from August to November.

ACACIA LEUCOCLADA, sp. nov. ssp. LEUCOCLADA ssp. nov.

Frutex vel persaepe arbor effusa, circiter 4–9 m. (raro usque 15 m.), alta diametro 15–45 cm., cortice arborum maturarum atrobrunneo vel nigro, trunco supra basin ad 3–5 m. aspero et corrugato, ramis juvenilibus levibus, olivaceis et saepe glaucis, cortice arborum parvarum levi et pallide brunneo. *Ramuli* leviter angulati, costis nec tuberculatis nec alatis, glauci, leviter caerulei, nonnunquam glabri sed plerumque pilis brevibus canescentibus incani. *Ramuli novelli* argentei vel albi. *Spiniae* nullae. *Folia*: petiolus circiter 1.5–3 cm. longus, costatus, in plano verticali non applanatus, nonnunquam glaucus, eglandulosus vel prope basin paris infimi pinnarum vel inter has et basin petioli glandula unica mediana ornatus; rhachis 2–8 cm. longa, ut ramuli vestita, plerumque glandula juxta basin omnium parium pinnarum et 2–5 glandulis interjugalibus inter compluria paria pinnarum praedita vel raro 1–2 paribus pinnarum sine glandulis et glandula interjugalii unica tantum inter paria omnia pinnarum praedita. *Pinnae* 6–16-jugae, 5–12 cm. longae, 4–7.5 cm. latae. *Pinnulae* 17–36-jugae, anguste oblongae vel lineares, 2–5 mm. longae, 0.4–1.2 mm. latae, virides vel caeruleae, subtus vix pallidae, supra glabrae, pilis subappressis, albis, simplicibus, septatis, sparsis per superficiem paginae (plerumque praeter margines) dispersis, apice obtuso. *Capitula* flava, globosa, in racemis vel paniculis disposita, capitulis plerumque 22–26-floris, pedunculis glaucis, pilis appressis, simplicibus, septatis, canescentibus sparse vestitis. *Bractea* ad basin pedunculi, atrobrunnea, fimbria marginali ciliorum alborum et pilis paucis superficialibus ornata. *Bracteolae* 0.8–1 mm. longae, atrorufobrunneae, sursum spathulatae vel peltatae, dense ciliolatae, petiolo angusto, pilis albis lanatis ornato. *Calyx* circiter 0.5–0.7 mm. longus, obconicus, rufobrunneus, tubo lobos aequante vel iis 5-plo longiore, lobis secus costas pilis albis lanatis interdum saepe vel dense vestitus, sed tubo saepe glabro. *Corolla* circiter 1–1.5 mm. longa; petalis tubum aequantibus, glabris vel pilis brevibus, erectis, albis ornatis, margine granulosis. *Staminum filamenta* numerosa, circiter 2–2.2 mm. longa. *Antherae* biloculares. *Ovarium* sessile, castaneum vel atrobrunneum, 0.5–0.8 mm. longum, oblongum vel oblongo-lanceolatum, apice obtuso, apicem et medium versus pilis albis lanatis vestitum. *Stylus* hinnuleus, glaber, ovario 3-plo longior. *Legumina* stipitata, porphyrea vel fusca, leviter vel valde glauca, plerumque submoniliformia, interdum recta, tenuiter coriacea, 3.5–11.5 cm. longa, 6–12 mm. lata, margines versus pilis minutis, fugacibus, albis, rectis, appressis sparse vestita. *Semina* nigra, obscura vel nitida, oblongo-ellipsoidea, in legumine longitudinaliter disposita, funiculo primario filiformi et stricto vel leviter uncinato deinde in arillum pileiformem eburneum super seminis apicem incrassato, areolo prominente.

A shrub or very often a spreading tree about 4 to 9 m. (or rarely up to 15 m.) high, the d.b.h. of the trunk 15 to 45 cm., with the bark of mature trees dark brown or black, rough and corrugated on the trunk up to 3 to 5 m. from the base, the young branches smooth, olive green and often glaucous, on the

small trees the bark on the main trunk is smooth and light brown. *Branchlets* slightly angled, with non-tuberculate, non-winged ridges, glaucous, slightly bluish, sometimes glabrous but mostly hoary due to short, greyish hairs. *Young tips* silvery or whitish. *Leaves*: petiole ca. 1.5 to 3 cm. long, ribbed, not vertically flattened, sometimes glaucous, eglandulose or with a gland just below the lowest pair of pinnae or mid-way between the latter and the base of the petiole; the rhachis 2 to 8 cm. long, clothed as on the branchlets, usually 1 gland at the base of each pair of pinnae and 2 to 5 interjugal glands between at least several pairs of pinnae or rarely 1 or 2 pairs of pinnae without a gland at their base and with only 1 interjugal gland between each pair of pinnae. *Pinnae* 6 to 16 pairs, 5 to 12 cm. long, 4 to 7.5 cm. broad. *Pinnules* 17 to 36 pairs, narrowly oblong (3:1) to linear (10:1), 2 to 5 mm. long, 0.4 to 1.2 mm. broad, green or bluish, very slightly paler on the lower surface, glabrous above, mostly clothed with rather appressed, white, unbranched, septate hairs scattered over the surface but especially along the margins, the apex obtuse. *Heads* yellow, globose, in racemes or panicles, mostly 22 to 26 flowers in a head, the peduncles glaucous, sparsely greyish hoary with appressed, unbranched, septate hairs. *Bract* at the base of the peduncle dark brown, bearing a marginal fringe of white cilia, as well as some scattered on the surface. *Bracteole* 0.8 to 1 mm. long, dark red-brown, consisting of a narrow stalk clothed with white woolly hairs, expanded into a spatulate or peltate, ciliate apical portion. *Calyx* ca. 0.5 to 0.7 mm. long, obconical, red-brown, with lobes $\frac{1}{2}$ to $\frac{1}{3}$ the length of the tube, clothed with white woolly hairs on the lobes and sometimes sparsely to densely on the ribs but the tube is often glabrous. *Corolla* ca. 1 to 1.5 mm. long, dissected to about half of its length, the petals glabrous or clothed with short, erect, white hairs, the margins of the petals granulose. *Filaments* of the stamens numerous, ca. 2 to 2.2 mm. long. *Anthers* bilocular. *Ovary* sessile, chestnut or dark brown, 0.5 to 0.8 mm. long, oblong or oblong-lanceolate, the apex rounded, clothed especially towards the apex and middle with white woolly hairs. *Style* fawn, glabrous, often looped, about $2\frac{1}{2}$ to 3 times as long as the ovary. *Legumes* stalked, reddish-brown or brownish grey, faintly to markedly glaucous, usually slightly constricted between the seeds but sometimes almost straight-sided, thinly coriaceous, 3.5 to 11.5 cm. long, 6 to 12 mm. broad, clothed sparsely especially towards the margins with minute, fugacious, white, more or less straight, appressed hairs. *Seeds* black, dull or glossy, oblong-elliptical, longitudinal in the legume, the funicle filiform and straight or slightly hooked, then expanded into a cream-coloured, pileiform aril on top of the seed, the areole usually prominent.

Holotype.—Tunderbrine Creek, Warrumbungle Mountains, A. Correy 3/9/1953 (NSW 25552), located in the National Herbarium of New South Wales, Sydney.

Isotypes: K; A; L; US; G; BRI; AD; UC.

Distribution.—New South Wales: the North, Central and South Western Slopes, rarely on the Northern Tablelands and at Howes Mountain on the border of the North and Central Coast.

Flowering period.—Late July to late September.

Length of Legume Formation.—Approximately 5 months. The mature legumes occur on the trees in November, December and January.

Chromosome count.— $2n=26$. Voucher specimen: 3 miles from Molong, N.S.W., E. F. Constable 24/1/1964 (NSW 78901). This chromosome count was made by Dr. Barbara Briggs (personal communication).

The habit of *Acacia leucoclada* ssp. *leucoclada* is much more open than in *A. dealbata* with which it has been confused in the past. It may be distinguished from *A. dealbata*, as there is a single, prominent, orbicular gland at the base of each pair of pinnae in the latter species but interjugal glands are absent on the rhachis. Both species have glaucous legumes but they are glabrous in *A. dealbata*, whereas in both subspecies of *A. leucoclada* minute, appressed, white hairs are present on their legumes.

ACACIA LEUCOCLADA Tindale ssp. ARGENTIFOLIA ssp. nov.

Acaciae leucocladae ssp. *leucocladae* affinis, sed differt: arbore maiore nonnunquam usque 18 metros alta, ramulis semper dense crispato-pilosis, petiolis rhachidibusque glandulis inconspicuis, angustis, dense crispato-pilosis praeditis, rhachidibus glandula singula prope basin paris summi pinnarum saepe ornatis, etiam inter paria omnia pinnarum 1 vel saepe 2 glandulis raro contiguis, interjugalibus, in rhachide interdum inter paria media pinnarum vel 4 paria infima carentibus.

Allied to *Acacia leucoclada* ssp. *leucoclada* but differing in the following ways: a larger tree sometimes up to 18 metres high, with the branchlets always densely crispato-pilose, with the petioles and rhachises bearing inconspicuous, narrow, densely crispato-pilose glands, with the rhachises often bearing one gland near the base of the uppermost pair of pinnae, also between all the pairs of pinnae 1 or sometimes 2, rarely contiguous, interjugal glands, sometimes these glands absent on the rhachis between the middle pairs of pinnae or between the 4 lowest pairs.

Holotype.—1 mile north of Memerambi, south-eastern Queensland, tree 20 ft. high, with an ironbark type of bark, in fruit, foliage silvery, in red soil, growing along the roadside in cleared country, M. Tindale 31/10/1960 (NSW 52681), located in the National Herbarium of New South Wales, Sydney.

Isotypes.—K; US; A; L.

Distribution.—South-eastern Queensland (the South Burnett district and the Darling Downs) and the Far North Coast of New South Wales (mainly in the Acacia Creek-Koreelah districts).

Habitats.—In dry sclerophyll forest, mainly in cleared country, often in red loam, sandy clay or sandy soil, sometimes along the banks of creeks.

Flowering period.—Early July to early September.

Length of Legume Formation.—4 to 5 months, the mature legumes being borne on the trees in November and December.

Chromosome number.— $2n=26$, Voucher specimen: Roseberry State Forest Nursery (96), cultivated, E. F. Constable 27/5/1964 (NSW 78899). (Dr. Barbara Briggs, personal communication.)

The principal diagnostic feature of *A. leucoclada* ssp. *argentifolia* is the barely discernible glands on the petioles and rhachises, which distinguishes this taxon from all other members of the *A. decurrens* group. *A. leucoclada* ssp. *argentifolia* has a more northerly distribution than ssp. *leucoclada*, since it ranges from south-eastern Queensland to the Far North Coast of New South Wales, whereas ssp. *leucoclada* occurs on the Western Slopes, the Northern Tablelands and at Howes Mountain in New South Wales. Probable hybrids between these subspecies have been examined.

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Acacia storyi is named in honour of Dr. R. Story (C.S.I.R.O., Canberra), one of the collectors of the holotype of this species.